

WHAT IS CLAIMED IS:

1. An engine switch device for use in a vehicle to start and stop an engine, the switch device comprising:

5 a key cylinder having a key slot; and

a push button switch pushed to stop or start the engine, the push button switch including a push button surrounding the key slot.

10 2. The switch device according to claim 1, wherein the key slot receives a mechanical key having a transponder, and the push button includes a communicating means that communicates with the transponder of the mechanical key.

15 3. The switch device according to claim 1, wherein the push button has a central portion through which a hole extends to receive the key cylinder.

4. The switch device according to claim 1, wherein  
20 the push button has a central portion separated from a hole that receives the key cylinder.

5. The switch device according to claim 1, wherein the key cylinder includes a rotor having an end face through  
25 which the key slot extends, with the push button being flush with the end face of the rotor.

6. The switch device according to claim 1, wherein the key cylinder includes a rotatable rotor that becomes  
30 pushable after being rotated, the push button being configured to move simultaneously with the rotor when the rotor is pushed.

7. The switch device according to claim 6, wherein the rotor includes a flange, and the push button includes a stopper engaged with the flange to move the push button together with the rotor when the rotor is pushed.

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8. The switch device according to claim 6, wherein the key cylinder includes a rotor case for accommodating the rotor, and the switch device further comprises a spring arranged between the push button and the rotor case to urge the push button.

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9. The switch device according to claim 6, wherein the key cylinder includes a rotor case for accommodating the rotor, a circuit board arranged in the rotor case, and a spring arranged between the circuit board and an end wall of the rotor case to urge the circuit board toward the rotor.

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10. The switch device according to claim 6, wherein the rotor includes a tab extending from its outer surface, the key cylinder includes a rotor case for accommodating the rotor, and the rotor case includes a guide groove formed at an inner surface of the rotor case for guiding the tab of the rotor.

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11. The switch device according to claim 10, wherein the guide groove includes a first guide groove extending in a circumferential direction of the rotor and a second guide groove extending in a longitudinal direction of the rotor.

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12. An engine switch device for use in a vehicle to start and stop an engine, the switch device comprising:  
a key cylinder having a key slot; and  
a push button switch pushed to stop or start the

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engine, the push button switch including a push button, and the key slot being arranged in the push button.

13. An engine switch device for use in a vehicle to  
5 start and stop an engine, the switch device comprising:

a key cylinder having a key slot for receiving a mechanical key, the mechanical key including a transponder having a communication function; and

10 a push button switch pushed to stop or start the engine, the push button switch including a push button having a hole, the push button including a communicating means for communicating with the transponder, and the key slot being arranged in the hole of the push button.

15 14. The switch device according to claim 13, wherein the key cylinder includes a pushable rotor having a flange, and the push button includes a stopper engaged with the flange to move the push button together with the rotor when the rotor is pushed.

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15. The switch device according to claim 13, wherein the push button has a central portion through which the hole extends.

25 16. The switch device according to claim 13, wherein the push button has a central portion separated from the hole.

30 17. The switch device according to claim 13, wherein the communicating means includes an antenna coil.